IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Baker et al.	Docket No:	39780-2830P1C7
Serial No:	10/006,130	Group Art Unit:	1647
Filed:	December 6, 2001	Examiner:	Rachel B. Kapust

For: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC ACIDS ENCODING THE SAME

Commissioner for Patents
Washington, D.C. 20231

DECLARATION OF AUDREY GODDARD, Ph.D. UNDER 37 CFR 1.131

I, Audrey Goddard, Ph.D. do hereby declare and say as follows:

1. I am Senior Clinical Scientist at the Diagnostics, Development Sciences Department of Genentech, Inc., South San Francisco, CA 94080.

2. I am one of the inventors of the above-identified application.

3. I have read and understood the claims pending in this application, and are aware that the claims have been rejected as anticipated by U.S. Patent Publication No. 2003/0096951 (Jacobs *et al.*, publication date May 22, 2003 and effective filing date August 14, 1998).

4. I, along with other inventors of this application, conceived and reduced to practice the polypeptide designated as PRO1244 (SEQ ID NO:130) claimed in the above-identified application in the United States prior to August 14, 1998.

5. At the time the PRO1244 polypeptide was cloned and sequenced I was responsible for overseeing the sequencing of novel polypeptides, including the PRO1244 polypeptide (SEQ ID NO:130) claimed in the above-identified application.

6. A cDNA clone, referred to as DNA64883-1526 in the above-identified application, was identified as encoding the PRO1244 polypeptide.

7. The full length of the cDNA clone is shown in Figure 73 of the above-identified application. The full-length cDNA sequence has 2213 nucleotide residues. The full length of the PRO1244 peptide encoded by DNA64883-1526 is shown in Figure 74 of

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the above-identified application. The full-length PRO1244 polypeptide has 335 amino acid residues.

8. Copies of the pages from the GSeqEdit database which report the cloning and sequencing data for the PRO1244 polypeptide sequence and its encoding nucleic acid sequence are attached to this declaration (with the dates redacted) as Exhibit A.

9. The GSeqEdit report shows the full-length nucleic acid sequence for DNA-64883-1526 (identified as "DNA-64883") and the full-length PRO1244 polypeptide encoded by DNA 64883. Both the DNA-64883 and the PRO1244 polypeptide sequences were obtained prior to August 14, 1998.

10. The DNA-64883 sequence shown in the GSeqEdit report is identical to that of SEQ ID NO: 129 disclosed in the above-identified application.

11. The beginning of the cDNA sequence corresponding to SEQ ID NO: 129 in the above-identified application is shown on page 1 of the GSeqEdit database report and the location of the first nucleotide is marked with "^insert starts here" and an arrow. The location of the last nucleotide corresponding to SEQ ID NO: 129 is shown on page 11 and is marked with an arrow.

12. The amino acid sequence shown in the GSeqEdit report is identical to that of SEQ ID NO: 130 disclosed in the above-identified application.

13. The first 26 amino acid residues of the PRO1244 polypeptide (SEQ ID NO:130) encoded by the cDNA (DNA-64883) are also shown on page 1 of the GSeqEdit report and the remaining 309 residues appear on pages 2-6 of the report.

14. Exhibit A clearly shows that both the full-length DNA-64883 sequence and the full-length PRO1244 polypeptide sequence disclosed in the above-identified application were obtained prior to August 14, 1998.

15. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information or belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001

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of Title 18 of the United States Code and that such willful statements may jeopardize the validity of the application or any patent issued thereon.

O. Goddard   _6/17/04_

Audrey Goddard   Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Serial No:	10/006,130	Group Art Unit:	1647
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For: **SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC ACIDS ENCODING THE SAME**

Commissioner for Patents
Washington, D.C. 20231

DECLARATION OF WILLIAM WOOD, Ph.D. UNDER 37 CFR 1.131

I, William Wood, Ph.D. do hereby declare and say as follows:

1. I am Director and Staff Scientist at the Department of Bioinformatics, of Genentech, Inc., South San Francisco, CA 94080.

2. I am one of the inventors of the above-identified application.

3. I have read and understood the claims pending in this application, and are aware that the claims have been rejected as anticipated by U.S. Patent Publication No. 2003/0096951 (Jacobs *et al.*, publication date May 22, 2003 and effective filing date August 14, 1998).

4. I, along with other inventors of this application, conceived and reduced to practice the polypeptide designated as PRO1244 (SEQ ID NO:130) claimed in the above-identified application in the United States prior to August 14, 1998.

5. At the time the PRO1244 polypeptide was cloned and sequenced I was responsible for overseeing the cloning of cDNAs which encoded novel polypeptides, including the cDNA that encoded PRO1244 polypeptide (SEQ ID NO:130) claimed in the above-identified application.

6. A cDNA clone, referred to as DNA64883-1526 in the above-identified application, was identified as encoding the PRO1244 polypeptide.

7. The full length of the cDNA clone is shown in Figure 73 of the above-identified application. The full-length cDNA sequence has 2213 nucleotide residues. The full

-1-

length of the PRO1244 peptide encoded by DNA64883-1526 is shown in Figure 74 of the above-identified application. The full-length PRO1244 polypeptide has 335 amino acid residues.

8. Copies of the pages from the GSeqEdit database which report the cloning and sequencing data for the PRO1244 polypeptide sequence and its encoding nucleic acid sequence are attached to this declaration (with the dates redacted) as Exhibit A.

9. The GSeqEdit report shows the full-length nucleic acid sequence for DNA-64883-1526 (identified as "DNA-64883") and the full-length PRO1244 polypeptide encoded by DNA 64883. Both the DNA-64883 and the PRO1244 polypeptide sequences were obtained prior to August 14, 1998.

10. The DNA-64883 sequence shown in the GSeqEdit report is identical to that of SEQ ID NO: 129 disclosed in the above-identified application.

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12. The amino acid sequence shown in the GSeqEdit report is identical to that of SEQ ID NO: 130 disclosed in the above-identified application.

13. The first 26 amino acid residues of the PRO1244 polypeptide (SEQ ID NO:130) encoded by the cDNA (DNA-64883) are also shown on page 1 of the GSeqEdit report and the remaining 309 residues appear on pages 2-6 of the report.

14. Exhibit A clearly shows that both the full-length DNA-64883 sequence and the full-length PRO1244 polypeptide sequence disclosed in the above-identified application were obtained prior to August 14, 1998.

15. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information or belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and

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the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful statements may jeopardize the validity of the application or any patent issued thereon.

_____   _____
William Wood   Date

Exhibit A

to Declarations of Audrey Goddard and William Wood under 37 CFR 1.131

GSeqEdit Database Report

```
            DNA64883 wiw GSeqEdit
            DNA64883 zemin GSeqEdit
            DNA64883 goddarda GSeqEdit
            DNA64883 sheldens GSeqEdit
>HBN64883.seq, sequenced at ABI/ACGT by Peter Ma and Ellson Chen
>human ortholog of implantation-associated protein - Rattus
```

```
                                              nlaIII
                                              mslI
                                              styI
                                              ncoI
                                              dsaI              tseI
                                              btgI/bstDSI  fnu4HI/bsoFI          dde
                                              bstXI         bbvI                 bsp
                                              bsaJI         hinPI          taiI
          mnlI                                       tsp45I    hhaI/cfoI   maeII/hpyC
          taqI                                bsmAI maeIII   haeII    hpy99I mnlI
          xhoI
          tliI         thaI
          smlI         fnuDII/mvnI
                       hinPI   aciI
       paeR7I mwoI        tseI bstUI[M.hhaI-]
  tsp509I[M.ecoRI-]       fnu4HI/bsoFI
  ecoRI  avaI[M.taqI-]  bbvI bshl236I
  apoI  mwoI bseRI    nlaIII hhaI/cfoI

  1 CGGAATTCGG CTCGAGGAGC GAACATGGCA GCGCGTTGGC GGTTTTGGTG TGTCTCTGTG ACCATGGTGG TGGCGCTTGCT CATCGTTTGC GACGTTCCCT
    GCCTTAAGCC GAGCTCCTCG CTTGTACCGT CGCGCAACCG CCAAAACCAC ACAGAGACAC TGGTACCACC ACCGCGACGA GTAGCAAACG CTGCAAGGGA

           M  A  A  R  W  R  F  W  C  V  S  V  T  M  V  V  A  L  L  I  V  C  D  V  P  S
  1
                 ↑
           ^insert starts here
           ^MET
```

```
        mnlI                                                                                        aluI
     alwNI[dcm-]                                                                                   pvuII
     alw26I/bsmAI              bsaXI            hpy188I                              mspAlI/nspBII          bsmAI
101  CAGCCTCTGC CCAAAGAAAG AAGGAGATGG TGTTATCTGA AAAGGTTAGT CAGCTGATGG AATGGACTAA CAAAAGACCT GTAATAAGAA TGAATGGAGA
     GTCGGAGACG GGTTTCTTTC TTCCTCTACC ACAATAGACT TTTCCAATCA GTCGACTACC TTACCTGATT GTTTCTGGA  CATTATTCTT ACTTACCTCT
27    A  S  A  Q  R  K  K  E  M  V  L  S  E  K  V  S  Q  L  M  E  W  T  N  K  R  P  V  I  R  M  N  G  D

                                                    tspRI                          bst4CI/hpyCH4III   cac8I
                                                    btsI                            ahdI/eaml105I      cac8I
          hpy99I                    tsp509I         nlaIII            hpyCH4V tspRI                     hpyCH4V al
201  CAAGTTCCGT CGCCTTGTGA AAGCCCCACC GAGAAATTAC TCCGTTATCG TCATGTTCAC TGCTCTCCAA CTGCATAGAC AGTGTGTCGT TTGCAAGCAA
     GTTCAAGGCA GCGGAACACT TTCGGGGTGG CTCTTTAATG AGGCAATAGC AGTACAAGTG ACGAGAGGTT GACGTATCTG TCACACAGCA AACGTTCGTT
60    K  F  R  R  L  V  K  A  P  P  R  N  Y  S  V  I  V  M  F  T  A  L  Q  L  H  R  Q  C  V  V  C  K  Q
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scrFI[dcm-]
pspGI
mvaI
ecoRII[dcm-]
dsaV[dcm-]
bstNI
bssKI[dcm-]
apyI[dcm+]
sau3AI
mboI/ndeII[dam-]
dpnII[dam-]
dpnI[dam+]
alwI[dam-]   scrFI[dcm-]
bstYI/xhoII   pspGI
alwNI[dcm-]   mvaI
alw26I/bsmAI   ecoRII[dcm-]
tsp509I[M.ecoRI-]   dsaV[dcm-]   hpyCH4V
ecoRI pflMI[dcm-]   bstNI baeI   tspRI
apoI bslI[dcm-]   bssKI[dcm-]   bsrI bsmI hphI
mboII hpy188III   apyI[dcm+] bpmI/gsuI[dcm-]

nlaIII
styI
ncoI
dsaI
btgI/bstDSI
bsaJI
hpy18

```
301 GCTGATGAAG AATTCCAGAT CCTGGCAAAC TCCTGGCGAT ACTCCAGTGC ATTCCACCAAC AGGATATTTT TTGCCATGGT GGATTTTGAT GAAGGCTCTG
    CGACTACTTC TTAAGGTCTA GGACCGTTTG AGGACCGCTA TGAGGTCACG TAAGTGGTTG  TCCTATAAAA AACGGTACCA CCTAAAACTA CTTCCGAGAC
 93 A  D  E  E  F  Q  I  L  A  N  S  W  R  Y  S  S  A  F  T  N  R  I  F  F  A  M  V  D  F  D  E  G  S  D
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```
                           tsp509I[M.ecoRI-]
                    ecoRI                    hpyCH4V
                    apoI                     ecoNI
              sfaNI                          bslI        hphI     ndeI    maeIII   aciI
        hpy188I   nlaIII   aluI             bslI

401 ATGTATTTCA GATGCTAAAC ATGAATTCAG CTCCAACTTT CATCAACTTT CCTGCAAAAG GGAAACCCAA ACGGGGTGAT ACATATGAGT TACAGGTGCG
    TACATAAAGT CTACGATTTG TACTTAAGTC GAGGTTGAAA GTAGTTGAAA GGACGTTTTC CCTTTGGGTT TGCCCCACTA TGTATACTCA ATGTCCACGC
127  V  F  Q  M  L  N  M  N  S  A  P  T  F  I  N  F  P  A  K  G  K  P  K  R  G  D  T  Y  E  L  Q  V  R


           ddeI[M.aluI-]
                 bspCNI        mspI      sau3AI                                         bsmFI
                 celII/espI    hpaII     mboI/ndeII[dam-]                               sau96I
                 blpI/bpu1102I scrFI[M.hpaII-]                                          nlaIV
            aluI        nciI   dpnII[dam-]                        sspI    tsp509I   avaII bslI
            pvuII       dsaV   dpnI[dam+]
            mspAlI/nspBI  bssKI  alwI[dam-]

501 GGGTTTTTCA GCTGAGCAGA TTGCCCGGTG GATCGCCGAC AGAACTGATG TCAATATTAG AGTGATTAGA CCCCCAAATT ATGCTGGTCC CCTTATGTTG
    CCCATAAAGT CGACTCGTCT AACGGGCCAC CTAGCGGCTG TCTTGACTAC AGTTATAATC TCACTAATCT GGGGGTTTAA TACGACCAGG GGAATACAAC
160  G  F  S  A  E  Q  I  A  R  W  I  A  D  R  T  D  V  N  I  R  P  P  N  Y  A  G  P  L  M  L


                       taqI                                aluI
                       sfuI                                tseI
                       bstBI                               fnu4HI/bsoFI
                       bsiCI            tsp509I   tru9I     fokI    bstF5I   bbvI
              baeI     mboII  mboII     apoI      mseI      bsrI    mwoI hpyCH4V

601 GGATTGCTTT TGGCTGTTAT TGGTGGACTT GTGTATCTTC GAAGAAGTAA TATGGAATTT CTCTTTAATA AAACTGGATG GGCTTTTGTT GCTTTGTGTT
    CCTAACGAAA ACCGACAATA ACCACCTGAA CACATAGAAG CTTCTTCATT ATACCTTAAA GAGAAATTAT TTTGACCTAC CCGAAAACAA CGAAACACAA
193  G  L  L  L  A  V  I  G  G  L  V  Y  L  R  R  S  N  M  E  F  L  F  N  K  T  G  W  A  F  A  A  L  C  F
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                                                              nlaIII        nlaIII
                                                       pciI                 styI
                                                       nspHI                ncoI
                                              bslI     nspI                 dsaI
                                      sau96I           aflIII    tsp509I bsaJI  btgI/bs
                                      avaII    tfiI
          cac8I                       mnlI  ndeI        hinfI
          ahdI/eam1105I      nlaIV             bsmFI

701 TTGTGCTTGC TATGACATCT GGTCAAATGT GGAACCATAT AAGAGGACCA CCATATGCCC ATAAGAATCC CCACACGGGA CATGTGAATT ATATCCATGG
    AACACGAACG ATACTGTAGA CCAGTTTACA CCTTGGTATA TTCTCCTGGT GGTATACGGG TATTCTTAGG GGTGTGCCCT GTACACTTAA TATAGGTACC
227  V  L  A   M  T  S   G  Q  M  W   N  H  I   R  G  P   P  Y  A  H   K  N  P   H  T  G   H  V  N  Y   I  H  G


                                                    ddeI                          tseI
                                                    eco81I                        fnu4HI/bsoFI
                                      tru9I         bsu36I/mstII/sauI             bbvI   hpy1
                    bsrI    aluI      mseI   mboII   maeIII                        aluI   mnlI

801 AAGCAGTCAA GCCCAGTTTG TAGCTGAAAC ACACATTGTT CTTCTGTTTA ATGGTGGAGT TACCTTAGGA ATGGTGCTTT TATGTGAAGC TGCTACCTCT
    TTCGTCAGTT CGGGTCAAAC ATCGACTTTG TGTGTAACAA GAAGACAAAT TACCACCTCA ATGGAATCCT TACCACGAAA ATACACTTCG ACGATGGAGA
260  S  S  Q   A  Q  F  V   A  E  T   H  I  V   L  L  F  N   G  G  V   T  L  G   M  V  L  L   C  E  A   A  T  S


                                                                        sau3AI
                                                                        mboI/ndeII[dam
                                                                        dpnII[dam-]
                                                             sfaNI      dpnI[dam+]
                                                    eco57I   fokI       bstYI/xhoII
          nlaIII                                    mboII    bstF5I     bglII      nl

901 GACATGGATA TTGGAAAGCG AAAGATAATG TGTGTGGCTG GTATTGGACT TGTTGTATTA TTCTTCAGTT GGATGCTCTC TATTTTTAGA TCTAAATATC
    CTGTACCTAT AACCTTTCGC TTTCTATTAC ACACACCGAC CATAACCTGA ACAACATAAT AAGAAGTCAA CCTACGAGAG ATAAAAATCT AGATTTATAG
293  D  M  D  I  G  K  R  K  I  M  C  V  A  G  I  G  L  V  V  L  F  F  S  W  M  L  S  I  F  R  S  K  Y  H
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                                bsmFI
                                sau96I                    bsrI
                                nlaIV                     rsaI
                                avaII          bpmI/gsuI[dcm-]
                    tru9I  ppuMI          bsrI  csp6I
         aluI hpy188I  mseI  eco0109I/draII    tspRI  scaI  tsp509I
1001 ATGGCTACCC ATACAGCTTT CTGATGAGTT AAAAAGGTCC CAGAGATATA TAGACACTGG AGTACTGGAA ATTGAAAAAC GAAAATCGTG TGTGTTTGAA
     TACCGATGGG TATGTCGAAA GACTACTCAA TTTTTCCAGG GTCTCTATAT ATCTGTGACC TCATGACCTT TAACTTTTTG CTTTAGCAC ACACAAACTT
327  G  Y  P  Y  S  F  L  M  S  O

                                          tru9I                          tru9I
         bsmI                       mseI   tru9I                         mseI
     mboII hpyCH4V          mnlI   ahaIII/draI    tru9I
                                          swaI  mseI  mseI  mboII
1101 AAGAAGAATG CAACTTGTAT ATTTTGTATT ACCTCTTTTT TTCAAGTGAT TTAAATAGTT AATCATTTAA CCAAAGAAGA TGTGTAGTGC CTTAACAAGC
     TTCTTCTTAC GTTGAACATA TAAAACATAA TGGAGAAAAA AAGTTCACTA TTAGTAAATT GGTTTCTTCT ACACATCACG GAATTGTTCG

                  mnlI
           ddeI                                       tsp509I             tru9I
           bspCNI          mnlI tru9I        bsrI                tru9I  rsaI tsp509I
     mnlI  hpy188I    tsp509I  mseI   mboII tspRI              mseI  csp6I mseI
1201 AATCCTCTGT CAAAATCTGA GGTATTTGAA AATAATTATC CTCTTAACCT TCTCTTCCCA GTGAACTTTA TGGAACATTT AATTAGTAC AATTAAGTAT
     TTAGGAGACA GTTTTAGACT CCATAAACTT TTATTAATAG GAGAATTGGA AGAGAAGGGT CACTTGAAAT ACCTTGTAAA TTAAATCATG TTAATTCATA

                                                       tru9I
                                                       mseI
                                                       hpaI
         ps1I  tsp509I                      aluI    hincII/hindII hpy188I            bslI
1301 ATTATAAAAA TTGTAAAACT ACTACTTTGT TTTAGTTAGA ACAAAGCTCA AAACTACTTT AGTTAACTTG GTCATCTGAT TTTATATTGC CTTATCCAAA
     TAATATTTTT AACATTTTGA TGATGAAACA AAATCAATCT TGTTTCGAGT TTTGATGAAA TCAATTGAAC CAGTAGACTA AAATATAACG GAATAGGTTT

                 GSeqEdit, DNA64883 [Full], page 6
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                                                                                                        fokI
                                                                                      mboII          bstF5I
                                                              tsp509I[M.ecoRI-]
                                                              xmnI
                                                              ecoRI    mboII
scrFI[dcm-]                                                   asp700   aluI    mslI
pspGI                                                         apoI     ddeI[M.aluI-]
mvaI
ecoRII[dcm-]
dsaV[dcm-]                                                                    taiI
bstNI                                                                         hgiAI/aspHI
bssKI[dcm-]                                                                   bsp1286
apyI[dcm+]                                                           bsiHKAI    rmaI  ddeI
sexAI                                                                hpy188I  maeII/hpyCH4IV
   hpy188III      ndeI      maeIII                                   eco57I  aflIII maeI bspC
                                                                     mboII bmyI btrI bfaI mnlI

1401 GATGGGGAAA GTAAGTCCTG ACCAGGTGTT CCCACATATG ATAACTACAG TAGGAATTCA TTCTTAGCTT CTTCATCTTT GTGTGGATGT
     CTACCCCTTT CATTCAGGAC TGGTCCACAA GGGTGTATAC GGACAATGTC TATTGATGTA ATCCTTAAGT AAGAATCGAA GAAGTAGAAA CACACCTACA

                                                                  hpy188I
                                                         mboII
                                                         bpuAI
bstZ17I
bstl107I
accI    sfaNI       tsp509I        nlaIII bbsI

1501 GTATACTTTA CGCATCTTTC CTTTTGAGTA GAGAAATTAT GTGTGTCATG TGGTCTTCTG AAAATGGAAC ACCATTCTTC AGAGCACACG TCTAGCCCTC
     CATATGAAAT GCGTAGAAAG GAAAACTCAT CTCTTTAATA CACACAGTAC ACCAGAAGAC TTTTACCTTG TGGTAAGAAG TCTCGTGTGC AGATCGGGAG
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                                                                tth111I/aspI
                                                                pleI
                                                                pflFI
                                        bpmI/gsuI[dcm-]          mlyI
                              mnlI       hinPI    ddeI           hinfI              tsp45I
                     bseRI              hhaI/cfoI bspCNI  bsmAI  bsmAI              hphI
                     bseRI                                              tru9I maeIII
        bst4CI/hpyCH4III mnlI hpyCH4V                                   mseI bstEII

1601 AGCAAGACAG TTGTTTCTCC TCCTCCTTGC ATATTTCCTA CTGCGCTCCA GCCTGAGTGA TAGAGTGAGA CTCTGTCTCA AAAAAAAGTA TCTCTAAATA
     TCGTTCTGTC AACAAAGAGG AGGAGGAACG TATAAAGGAT GACGCGAGGT CGGACTCACT ATCTCACTCT GAGACAGAGT TTTTTTTCAT AGAGATTTAT

                      tru9I
                      mseI                    tfiI
              tsp509I       hpaI      xmnI     hinfI                              dde
        psiI         smlI   hincII/hindII  asp700 hpy188I  ddeI

1701 CAGGATTATA ATTTCTGCTT GAGTATGGTG TTAACTACCT TGTATTTAGA AAGATTTCAG ATTCATTCCA TCTCCTTAGT TTTCTTTTAA GGTGACCCAT
     GTCCTAATAT TAAAGACGAA CTCATACCAC AATTGATGGA ACATAAATCT TTCTAAAGTC TAAGTAAGGT AGAGGAATCA AAAGAAAATT CCACTGGGTA

                          maeIII     haeIII/palI            tsp45I        rsaI
        ddeI[M.aluI-]              tspRI  nlaIII      tsp509I    maeIII    csp6I
              aluI

1801 CTGTGATAAA AATATAGCTT AGTGCTAAAA TCAGTGTAAC TTATACATGG CCTAAAATGT TTCTACAAAT TAGAGTTGT CACTTATTCC ATTGTACCT
     GACACTATTT TTATATCGAA TCACGATTTT AGTCACATTG AATATGTACC GGATTTTACA AAGATGTTTA ATCTCAAACA GTGAATAAGG TAAACATGGA
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GSeqEdit, DNA64883 [Full], page 8

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                    scrFI[dcm-]
                    pspGI
                    mvaI
                    ecoRII[dcm-]
                    dsaV[dcm-]
                     bstNI
                      haeIII/palI
                      mscI/balI[dcm-]
                      eaeI[dcm-]
                      cfrI
                      scrFI[dcm-]
                      pspGI
                      mvaI bssKI[dcm-]
                      ecoRII[dcm-]  tsp45I                                          bssS
                      dsaV[dcm-] .  maeIII                                           hpy18
                       bstNI  hinPI                                                  sau3AI
                       bssKI[dcm-] tspRI                                             mboI/nd
                       pleI bslI[dcm-] hhaI/cfoI                     styI cac8I      dpnII[d
            ddeI       mlyI bsaJI apyI[dcm+]               ddeI      haeIII/palI     dpnI[da
            bspCNI     hinfI apyI[dcm+] btsI               bspCNI    mnlI bsaJI

1901 AAGAGAAAAA TAGGCTCAGT TAGAAAAGGA CTCCCTGGCC AGGCGCAGTG ACTTACGCCT GTAATCTCAG CACTTTGGGA GGCCAAGGCA GGCAGATCAC
     TTCTCTTTTT ATCCGAGTCA ATCTTTTCCT GAGGGACCGG TCCGCGTCAC TGAATGCGGA CATTAGAGTC GTGAAACCCT CCGGTTCCGT CCGTCTAGTG
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                                                                        scrFI[dcm-]
                          mscI/balI[dcm-]                               pspGI
                          eaeI[dcm-]                                    mvaI
                          scrFI[dcm-]                                   ecoRII[dcm-]
                          pspGI                                         dsaV[dcm-]
                          mvaI                                          bstNI
                          ecoRII[dcm-]                        tspRI     bssKI[dcm-]
                          dsaV[dcm-]                          btsI      apyI[dcm+]
                          bstNI              sau3AI           bpmI/gsuI[dcm-]
          bsmAI           bssKI[dcm-]        mboI/ndeII[dam-]
          taqI  fokI cfrI nlaIII   bsmAI    dpnII[dam-] hpyCH4V
     hpy188III bsaI bstF5I haeIII/palI esp3I   dpnI[dam+] bsgI
mnlI      hpy188III apyI[dcm+] hphI   bsmBI    nlaIV
                                       tsp509I
                                       aluI
2001 GAGGTCAGGA GTTCGAGACC ATCCTGGCCA ACATGGTGAA ACCCCGTCTC TACTAAAAAT ATAAAAATTA GCTGGGTGTG CCTGTAATCC
     CTCCAGTCCT CAAGCTCTGG TAGGACCGGT TGTACCACTT TGGGGCAGAG ATGATTTTTA TATTTTTAAT CGACCCACAC CACCGTCCTC GGACATTAGG


                                       hpy188III
                      ddeI    tfiI     ddeI
                      bspCNI  hinfI
          aluI  mnlI mnlI bssSI        bspCNI       mnlI   tspRI
2101 CAGCTACACA GGAGGCTGAG GCACGAGAAT CACTTGAACT CAGGAGATGG AGGTTTCAGT GAGCCGAGAT CACGCCCACTG CACTCCAGCC TGGCAACAGA
     GTCGATGTGT CCTCCGACTC CGTGCTCTTA GTGAACTTGA GTCCTCTACC TCCAAAGTCA CTCGGCTCTA GTGCGGGTGAC GTGAGGTCGG ACCGTTGTCT
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                                          fnu4HI/bsoFI
                                          haeIII/palI
                                          mcrI
                                          eagI/xmaIII/eclXI
                                          eaeI
                                          cfrI
                  pleI                    bsiEI    rmaI
                  mlyI                     notI    maeI
                  hinfI                    fnu4HI/bsoFI bfaI
                  bsmAI                    aciI aciI  speI
2201 GCGAGACTCC ATCTCAAAAA AAAAAAAAAA AAAAAAAGG CGGCCGCCGA CTAGTGAGC
     CGCTCTGAGG TAGAGTTTTT TTTTTTTTT TTTTTTTCCC GCCGGCGGCT GATCACTCG


> length: 2269


accI (GTMKAC):          1501
aciI (CCGC):            39 498 2250 2254
aflIII (ACRYGT):        780 1586
ahaIII (TTTAAA):        1150
ahdI (GACNNNNNGTC):     278 714
aluI (AGCT):            152 300 429 510 690 822 888 1015 1345 1476 1816 2070 2102
alw26I (CAGNNNCTG):     101 316
alwI (GGATCNNNN):       318 530
alwNI (CAGNNNCTG):      101 316
apoI (RAATTY):          3 310 423 655 1464
apyI (CCWGG):           321 332 1422 1934 1939 2023 2189
asp700 (GAANNNNTTC):    1464 1749
aspHI (GWGCWC):         1582
```